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REMARKS

Reconsideration of the Office Action of March 1, 2004 is requested.

Claims 2 to 5 are in the application.

The present invention is directed to an improved electric lamp wherein electric contact members in the lamp base and current supply wires are fastened to each other by means of a discrete solidified connection body comprising aluminum-silicon, in particular aluminum plus 5 to 16% by weight of silicon (AlSi). In the structure of the invention, the contact members and current supply wires are welded or brazed to the solidified connection body, so the structure includes integrally formed junctions.

The AlSi connection body has a lower melting temperature than substances used for lamp connections in the prior art and thus during manufacture there is less thermal load placed on the base portion, and consequently less risk of deformation and fewer rejects (page 2, lines 4 to 9). In addition, AlSi was found to be resistant to electrochemical corrosion and have a good adhesion/wetting with respect to the base and shell portions (page 2, lines 10 to 13).

Claims 2 to 5 stand rejected as being anticipated by Vause, U.S. Patent No. 3,885,186 under 35 U.S.C. 102 and as being obvious over McGinley, U.S. Patent No. 1,650,289 in view of Timsit, U.S. Patent No. 5,190,596. These rejections, as applied to the new claims presented herein are respectfully traversed.. Vause discloses making a lamp connection with an alloy containing aluminum and silicon in the superplastic state. To render the alloy capable of being superplastic, it is heated to a certain temperature and then rapidly quenched. To actually render it superplastic to make the connection it is heated to a lower value (also below the melting temperature) and slowly cooled. The gist of the rejection is that Vause discloses fusing of a conductor to the connection body in that one dictionary definition of "fuse" is broad enough to include the Vause procedure.

This rejection is now moot since the claims have been amended to recite that the lamp parts are "welded or brazed" to the connection body wherein integrally formed welded or brazed

junctions are formed. Such an arrangement is clearly excluded by Vause, who uses thermoplastic material in order to avoid soldering or welding type operations (Vause, col. 1, lines 20 to 57).

Welding and brazing are fundamentally different operations than thermoplastic attachment, since melting occurs and results in a blending of the two metals (integrally formed junction). See the dictionary definitions of welding and brazing attached hereto. Thus, there are no integrally formed junctions in Vause, and it would not be obvious to modify Vause to obtain them, since by its terms his patent excludes welding and brazing type operations.

The claims also stand rejected as being obvious over McGinley in view of Timsit under 35 USC 103. McGinley discloses a lamp in which the connections are soldered. Timsit is not directed to a lamp, but to a method of brazing metal surfaces.

In the present invention, the connection body is an alloy (aluminum and silicon), e.g. if the connections are brazed it is a brazing alloy. Furthermore, it is a discrete body which is connected to a lamp contact and conductor only at limited portions (integrally formed junctions resulting from melting and blending of the metals).

On the other hand, in Timsit, a coating is applied to an aluminum part to be joined comprised of a brazing flux and a metal (e.g., silicon). Heating causes the silicon to dissolve into the aluminum, thus creating a brazing alloy which is then melted to effect the connection. In Timsit, there is no discrete connection body because all of the coating is applied to the aluminum in a thin layer which merges therewith after heating. Thus, unlike in the present invention neither the starting product nor the finished product has a discrete connection body.

Moreover, it would not be obvious to modify Timsit to render claim 4 unpatentable since the sole object of Timsit is to avoid using a separate brazing alloy.

As stated in column 2, lines 3 to 7:

> "It is the object of the present invention to provide an improved method of joining aluminum surfaces, as well as joining aluminum to other surfaces such as copper, brass or steel, by brazing without the prior formation of a brazing-alloy cladding on the surfaces to be brazed."

It is therefore submitted that claim 4 and all claims dependent thereon are now allowable, and a Notice of Allowance is respectfully solicited.

Respectfully submitted,

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Hawley's Condensed Chemical Dictionary

ELEVENTH EDITION

Revised by

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VNR VAN NOSTRAND REINHOLD COMPANY
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structure much smaller than that of normal wax and also by much higher viscosity. Obtained by dewaxing tank bottoms, refinery residues, and other petroleum waste products; they have an average molecular weight of 500–800 (twice that of paraffin). Viscosity 45–120 seconds (SUS at 98.9C), penetration value 3–33. Petroleum-derived products are used for adhesives, paper coating, cosmetic creams, floor wax, electrical insulation, heat-sealing, glass fabric impregnation, leather treatment, emulsions, etc. Some natural products, notably chlorophyll are classed as microcrystalline waxes.

wax, polymethylene. White, odorless solid with congealing point of 96.1C. Offered in flaked form. Approved by FDA.

wax tailings. Brown, sticky, semiasphalt product obtained in the destructive distillation of petroleum tar just prior to formation of coke.
Use: Wood preservative, roofing paper.

"Weatherometer." See ageing (c).

web. A roll of paper as it comes from the Fourdrinier machine and used to feed a rotary printing press.

weed-killer. See herbicide.

Weerman degradation. Formation of an aldose with one less carbon atom from an aldonic acid by a Hoffmann-type rearrangement of the corresponding amide. This is a general reaction of alpha-hydroxy carboxylic acids.

weight. See mass.

weighting agent. (1) In soft drink technology, an oil or oil-soluble compound of high specific gravity, such as a brominated olive oil, which is added to citrus flavoring oils to raise the specific gravity of the mixture to about 1.00, so that stable emulsions with water can be made for flavoring. (2) In the textile industry a compound used both to deluster and lower the cost of a fabric, at the same time improving its "hand" or feeling. Zinc acetylacetonate, clays, chalk, etc., are used.

welding. Joining or bonding of metals or thermoplastics by application of temperatures high enough to melt the materials so that they fuse to a permanent union on cooling. In general, the temperatures used for thermoplastics are considerably lower than required for metals. The following methods are used for metals: (1) An oxyacetylene flame is applied with a torch to the butted ends or edges of the pieces to be joined. (2) A method called brazing is similar to (1), except that a nonferrous filler alloy is inserted between the pieces. A number of alloys are used, e.g., Ag/Cu/Zn; the filler cannot be remelted. It forms an intermetallic compound at the interfaces. (3) In resistance welding, the heat is provided by the resistance to an electric current as it passes through the material. No filler metal is used. (4) In ultrasonic welding, the heat source is the friction resulting from ultrasonic vibrations. It is a type of friction welding. (5) Electron-beam welding is a comparatively recent technique in which energy is supplied by a stream of electrons focused by a magnetic field under high vacuum. It is used for complicated weldments of tool steels.

The following methods are used for welding such thermoplastics as polyvinyl chloride, HDPE, polypropylene, and polycarbonates: (1) Hot gas technique, in which an electrically or gas-heated "gun" melts a rod of the same material as the parts to be joined. (2) Friction welding, in which heat is generated by rapid rubbing together of the two surfaces, one of which is held stationary while the other is rubbed against it at a speed great enough to cause softening. (3) Ultrasonic welding, which is also used for thermoplastics. See (4) above.
See also solder.

Werner, A. (1866–1919) A native of Switzerland, Werner was awarded the Nobel Prize for his development of the concept of the coordination theory of valence, which he advanced in 1893. His ideas revolutionized the approach to the structure of inorganic compounds and in recent years have permeated this entire area of chemistry. The term "Werner complex" has largely been replaced by "coordination compound."

Wessely-Moser rearrangement. Rearrangement of flavones and flavanones possessing a 5-hydroxyl group, through fission of the heterocyclic ring and reclosure of the intermediate diaroylmethanes in the alternate direction.

Weston cell. An electrical cell used as a standard which consists of an amalgamated cadmium anode covered with crystals of cadmium sulfate dipping into a saturated solution of the salt, and a mercury cathode covered with solid mercury sulfate.

Westphalen-Lettre rearrangement. Dehydration of 5-hydroxycholesterol derivatives accompanied by C-10 to C-5 methyl migration in compounds with a beta-substituent in C-6.

wet deposition. See acid precipitation.

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